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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,155	09/30/2003	Kazuyuki Ichikawa	243317US3	9792
22850	7590	05/16/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				BINDA, GREGORY JOHN
		ART UNIT		PAPER NUMBER
		3679		

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/673,155	ICHIKAWA ET AL.	
	Examiner Greg Binda	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 April 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 4,7,10-20,22,25,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) 7,10-19,25 and 28 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 4,20,22 and 29 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on various is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

*Election/Restrictions*

2. Claims 7, 10-19, 25 & 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and/or species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 8, 2004.

*Drawings*

3. The drawings are objected to because:

- a. The cutback portion 14b is drawn with a dashed line in Figs. 2-6, a dashed line that overlaps the second curved portions 13b, 33b, 43b and curved portion 53. As such, the overlap indicates structure that contradicts that which is shown by the solid lines in Figs. 2-6. See for example Fig. 2 where it clearly shows the cutback portion 14b structurally does not overlap the second curved portion 13b, that the portion 14b extends beyond the smallest diameter portion of the second curved portion 13b ONLY to an imaginary feature H that is included in the drawings for illustrative/comparative purposes.

- b. The “position” where the splines and grooves converge first recited in claim 29, line 4 is not identified in the drawings of the elected invention. If such a position can be specifically identified in the admitted prior art (see reference character P1 in Fig. 11 which applicant argues (in the amendment filed April 19, 2005, page 13, line 22) is the

position where the splines and grooves converge) then this position can be positively identified in the drawings of the disclosed invention.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

5. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because to correct the directional errors found in the amendment filed April 19, 2005. See page 2 of that paper where applicant directs changes to made at "the paragraph beginning at page 1,

line 27" and at "the paragraph beginning at page 1, line 33". No such paragraphs exist in the specification.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

6. The disclosure is objected to because page 3, line 2 mentions a "Patent Document 1". There is no way to identify the actual patent document that corresponds to "Patent Document 1".

*Claim Rejections - 35 USC § 112*

7. Claims 4, 20, 22 & 29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 29, line 4 recites the limitation “a position” where the plurality of splines and the plurality of grooves converge. Said “position” appears to occur in Fig. 4 where the tapered right portion of the spline 14 intersects with the flat portion 35 (i.e. “P1” in Fig. 11). In line 8 & 9, claim 29 recites that the diameter of this “position” is less than the minimum diameter of the space between the splined portion 14 and the large diameter portion 11. However, Fig. 4 clearly shows that the minimum diameter of that space is the diameter of the flat portion 35 (i.e. the portion at which the “position” occurs). Therefore, in the application as originally filed the diameter of the “position” where the plurality of splines and the plurality of grooves converge is EQUAL to (i.e. not less than) the minimum diameter of the space between the splined portion 14 and the large diameter portion 11

8. Claims 4, 20, 22 & 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29, lines 12 & 13 recites the limitation “the minimum diameter of the tapered portion” which is defined in the accompanying remarks as being shown in Fig. 4 as the diameter  $d_0$  (see page 12, line last of the amendment). However, in Fig. 4 the tapered portion 12 appears to have a minimum diameter that is greater than the diameter  $d_0$ . As such, it is not clear how the limitations in new claim 29 correspond to (if at all) to the elected species.

*Claim Rejections - 35 USC § 102*

9. Claims 4, 20, 22 & 29 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art. The admitted prior art shows in Figs. 10 & 11 a shaft including a shank 100 comprising: a large diameter portion 101; a splined portion 104 with grooves 104a; a fitting member 200 engaged with the splines and stopped by the large diameter portion; a tapered portion 102a that has a minimum diameter that is greater than the diameter of the position P1 where the splines and grooves converge; and a further portion between the tapered portion and the splined portion, the further portion comprising a flat portion 103 and two curved portions (the first and second halves of the curved portion 102b).

*Response to Arguments*

10. Applicant's arguments filed April 19, 2005 have been fully considered but they are not persuasive. Applicant argues that the admitted prior art fails to show the claimed invention because the admitted prior art shows the position of the spline/groove convergence occurring at a diameter that is equal to, not less than, the minimum diameter of the space between the spline portion and the large diameter portion. However, it appears the same defect is found in the disclosed invention, the elected species at Fig. 4 (see item 7 above). Thus the admitted prior art shows the claimed invention to the same extent that it is shown in instant Fig. 4.

*Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

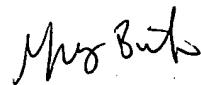
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Binda  
Primary Examiner  
Art Unit 3679